

## Syllabus Philosophy of Physics Phil 426

Professor Barry Loewer

Class time Friday 1-3:30 in philosophy seminar room.

The first meeting is Friday Sept 3. Some meetings may be on-line covid depending.

This course will focus on issues concerning the nature and direction of time, statistical mechanics and philosophy of cosmology.

Course work consists in 1) half hour presentation of one of the readings 2) short 5-7 page paper on one of the readings 3) 101-20 page semester paper on one of the issues discussed

Required books PDFs of the books will be available on-line in the course folder

1. *The Character of Physical Law* Richard Feynman
2. *Six Easy Pieces* Richard Feynman
3. *Philosophy of Physics: Space and Time* S&T Tim Maudlin
4. *Metaphysics within Physics* MEP Maudlin
5. *Time and Chance* T&C David Albert
6. *After Physics* AP David Albert`
7. *Cosmology: a Very Short Introduction* Peter Coles
8. *From Eternity to Here* FEtoH Sean Carroll.

In addition a number of papers will be available on line.

1. "Two Account of Time and Law" Barry Loewer
2. "Humean Supervenience" Barry Loewer
3. "Deterministic Probabilities" Barry Loewer
4. "A Subjectivist's Guide to Objective Chance" David Lewis
5. "What Breathers Fire into the Equations" Barry Loewer
6. "The Mentaculus Vision" Barry Loewer

Sept 3: The nature of physics: read *The Character of Physical Law*

Sept 10: Classical Mechanics and Quantum Mechanics

Sept 17: Space and Time Maudlin S&T chs 1-3, Albert ch 1

Sept 24: Thermodynamics Albert T&C ch 2

Oct 1: Statistical mechanics Albert

Oct 8: The Past Hypothesis ch 4 T&C ch 3 *AP*

Oct 15: Direction of Time; Maudlin ch 4 MEP Loewer "Two..." ch 2 *AP*

Oct 22 Asymmetries of Records and Intervention Albert ch 6 (first paper due)

Oct 29 The Mentaculus "The Mentaculus Vision" Loewer, Counterfactuals and the Second Law" Loewer, "Deterministic Probabilities" Loewer

Nov 5 Intro to Cosmology Coles

Nov 12 From Eternity to Here

Nov 19 "

Dec 3 Last meeting

Dec 10 Final Paper due